

# INVESTIGATE THE NEWS LANDSCAPE

## Frontend Development Documentation

### 1.Introduction:

***Project Title:*** THE NEWS LOOP

***Team Members:***

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This document serves to outline the architecture, development, and technical specifications of THE NEWS LOOP — a news website project.

### 2.Project Overview

***Purpose:***

THE NEWS LOOP is a dynamic news website aimed at delivering the latest news across multiple categories such as World, Sports, Education, and Technology. The frontend provides an intuitive, responsive, and engaging interface for users to access news articles easily.

**✦✦*Features:***

- Multi-category news display with dedicated pages (World, Sports, Education, Tech)
- Responsive design optimized for desktop and mobile devices ·

Integration of React.js for dynamic UI components · Easy navigation through categories via a consistent menu · Visual media support with images in each news section.

1. **Search Functionality** o Allow users to search news articles by keywords, tags, or categories.

2. **Trending/Popular News Section**

o Display top-read or most-liked articles for quick access to trending stories.

3. **Real-Time News Updates** o Auto-refreshing or periodically updated feed to show the latest news without needing a page reload.

4. **News Highlights or Summary Cards** o Provide brief summaries or bullet-point highlights under each article preview for quick reading.

- 5. **Local News Section** o Enable users to filter or view news based on their location or region.
- 6. **Author or Source Information** o Show details of the article's author or the source/publisher for transparency.
- 7. **Related Articles Suggestion** o Suggest similar articles at the end of each news post to increase user engagement.

### **User Interaction Features**

- 8. **User Comments and Discussions** o Enable a comment section for readers to share opinions and discuss the news.
- 9. **Like, Share & Bookmark Options** o Let users like, share (via social media), and save/bookmark articles to read later.
- 10.

### **Newsletter Subscription**

- Allow users to subscribe to daily or weekly news digests via email.

### **11.Dark Mode Toggle**

- Provide a dark mode for better reading experience during night-time browsing.

### **Backend & Admin Features**

### **12.Admin Dashboard**

- For adding, editing, and deleting articles, managing categories, and moderating comments.

### **13.Content Management System (CMS) Integration**

- Use or build a CMS for easier handling of content uploads and formatting.

### **14.User Authentication (Optional)**

- Enable user registration and login for personalized news feeds, bookmarks, and comments.

### **Mobile & Performance Enhancements**

### **15.Progressive Web App (PWA) Support**

- Allow users to install the site on mobile devices and access offline content.

### **16.Lazy Loading for Images**

- Improve performance by loading images only when they come into the viewport.

### **17.Push Notifications (Optional)**

- Notify users of breaking news or major category-specific updates.

### **Analytics and SEO**

### **18.Analytics Integration**

- Track user interactions, page views, and reading time to improve content strategy.

## 19. SEO Optimization

- Use structured data, meta tags, and sitemaps for better search engine visibility.

## 3. Architecture

### Component Structure:

The project does not use component-based architecture like React. Instead, it uses **static HTML files** for each page category. Shared functionality, such as toggling article views, is handled through a **single JavaScript file (js/main.js)**.

CSS styles are centralized in one stylesheet for uniformity.

Each page consists of:

- A **navbar** with links to all category pages.
- A **hero section** with a category title and tagline.
- A **news grid** displaying article previews (image + headline). · Hidden **full article sections** that become visible when a headline is clicked.

This setup is straightforward, easy to maintain, and suitable for small to medium-sized projects.

## 4. Setup Instructions

### Prerequisites:

- A modern web browser like Google Chrome, Mozilla Firefox, or Microsoft Edge that supports HTML5, CSS3, and JavaScript.
- Optional:  
A local web server (such as VS Code Live Server extension, Apache, or Python's HTTP server) for better file handling and to avoid CORS issues.

### Installation:

#### 1. Download or Clone Repository:

Use Git or download the ZIP file containing the project files.

#### 2. Folder Structure:

Ensure the folders `css/`, `js/`, and `images/` remain in the root directory alongside HTML files.

#### 3. Open in Browser:

You can double-click any `.html` file to open it in a browser or use a local server for more reliable behavior.

No build tools or package managers are required since the project uses only static files.

## 5. Folder Structure

The folder structure is simple and intuitive to facilitate maintainability:

the-news-loop/

```
|
|
|—— index.html # Homepage showing general news or featured articles
```

```

|— world.html # World news category page
|— sports.html # Sports news category page
|— education.html # Education news category page
|— tech.html # Technology news category page
|— world1.html... world6.html # World news pages
|— tech1.html ... tech6.html # Technology news pages
|— sports1.html... sports6.html # Sports news pages
|— edu1.html ... edu6.html # Education news pages
|— css/
|   |— style.css # Centralized stylesheet for the entire site |   |— js/
|   |— main.js # JavaScript file containing all interaction logic |
|— images/
|— dna.png
|— NL.png
|— sports.png
|— glb.png
|— vote.png
|— TNL logo.png

```

This structure promotes clarity and ease of resource management. **6. Running the Application**

To run the application:

- Open the root folder in a code editor like VS Code.
- Open any .html file directly in a modern browser, or launch a local development server for improved performance and to simulate real-world usage.
  - o Example command for Python HTTP server: `python -m http.server`

Then navigate to `http://localhost:8000` in your browser.

## 7. Component Documentation News Cards

Each news article is displayed as a **card-like <article> element**, designed for readability and visual appeal. These cards are styled using **CSS** for a clean, modern layout.

### ✦ Features:

- **Image Display:** Each card includes a thumbnail or banner image relevant to the article's content.
- **Clickable Headline:** The article title acts as a clickable `<h2>` element or `<a>` tag.

- **JavaScript Interaction:** Clicking the headline triggers a **JavaScript function** that dynamically reveals the full article while hiding the rest of the grid.

#### Example Structure:

```
<article class="news-card">

<h2 onclick="showArticle('article1')">Breaking News Headline</h2> </article>
```

#### Navbar (Navigation Bar)

A consistent, responsive **navigation bar** is included at the top of every page, helping users quickly navigate between news categories.

#### ✦ Features:

- **Fixed Position:** Stays at the top of the screen for easy access.
- **Flexbox Layout:** Ensures items are evenly spaced and responsive across all screen sizes.
- **Color Scheme:** Prominent **red-themed branding** in line with “THE NEWS LOOP” identity.
- **Category Links:** Includes clickable links to each major category:
  - o World
  - o Sports
  - o Education
  - o Technology

#### Example Structure:

```
<nav class="navbar">
<div class="logo">THE NEWS LOOP</div>
<ul class="nav-links">
<li><a href="world.html">World</a></li>
<li><a href="sports.html">Sports</a></li>
<li><a href="education.html">Education</a></li>
<li><a href="tech.html">Technology</a></li>
</ul>
</nav>
```

#### Article Sections (Full Article View)

When a user clicks on a news headline, the corresponding **full article section** is revealed. These sections are initially **hidden with CSS** and displayed only when activated via JavaScript.

#### ✦ Features:

- **Headline & Body:** Full news article including the headline and detailed text.
- **Back Button:** A “Back” button returns the user to the grid view of article previews.
- **Smooth Transitions:** Optional animations or slide-in effects using CSS for better UX.

#### Example Structure:

```
<section id="article1" class="full-article hidden">
<h2>Full News Headline</h2>
<p>Full article content goes here...</p>
<button onclick="goBack()">Back</button>
</section>
```

## 8. State Management

### Global State:

There is no global state in the traditional sense. Each page functions independently, and the state (which articles are shown) is local to the page's DOM.

### Local State:

Local state is managed using JavaScript DOM manipulation. The visibility of `.news-grid` and `.article` elements toggles based on user interactions:

- `showArticle(id)` hides the news grid and shows the selected article.
- `closeArticle()` hides the article and shows the news grid again.

This approach is simple, efficient, and suitable for this project's scale.

State management refers to how the website keeps track of and controls what content is visible or active on the screen based on user interactions. In *THE NEWS LOOP*, state management is handled using basic HTML, CSS, and JavaScript, without any external frameworks or libraries.

Managing this state effectively is key to providing a smooth and intuitive user experience.

## *How THE NEWS LOOP Manages State*

### 1. Showing and Hiding Content

When a user clicks on a news headline, JavaScript dynamically hides the grid containing all articles and displays only the selected article. This approach allows the user to focus on one article at a time without navigating away from the page. When the user closes the article, the view returns to the full list by hiding the article and showing the news grid again.

### 2. Navigation Highlighting

The navigation bar shows which section the user is currently browsing by highlighting the active menu item. This is achieved by checking the current page and updating the menu's appearance accordingly. This visual feedback helps users understand their location within the website. *Why This Approach?*

- It provides **dynamic content display** without the need to reload the page.
- It keeps the project **simple and lightweight**, as no complex frameworks are involved.

- It creates a clear and responsive **user interface**, improving usability.
- The use of CSS for hiding/showing elements and toggling styles makes the UI flexible and easy to maintain.

### ***Limitations and Future Considerations***

- While this manual approach works well for a small to medium website like THE NEWS LOOP, it might become cumbersome as the project grows.
- For larger applications, adopting a more structured state management system or using libraries/frameworks could improve scalability and maintainability.

## **9. User Interface**

The UI follows modern design principles:

- **Grid Layout:** The news grid uses CSS Grid to adapt the number of columns based on screen size.
- **Responsive Design:** Uses media queries and flexible units to look good on all devices.
- **Clear Hierarchy:** Headlines and images are clearly presented, and the color scheme uses red and white for strong branding and readability.
- **Smooth Interaction:** Articles open inline without page reloads, making browsing seamless.

## **10. Styling**

The project uses **vanilla CSS** stored in a single file (style.css). Key styling features include:

- **Reset Styles:** Universal selector resets margin, padding, and box-sizing for consistency.
- **Color Scheme:** Primary color is a vibrant red (#e00505), with white and light background colors for contrast.
- **Typography:** Uses system fonts for speed and readability.
- **Flexbox and Grid:** Layouts leverage CSS Flexbox (navbar) and CSS Grid (news cards).
- **Hover and Active States:** Navigation links underline on hover or when active, enhancing usability.

The styling for THE NEWS LOOP website is managed through a single style.css file located in the /css folder. This stylesheet defines the global styles and layouts, ensuring a consistent look and feel across all pages.

### **Key Style Highlights:**

- **Global Reset:**
  - { margin: 0; padding: 0; box-sizing: border-box; }
  - Resets default margins and paddings for all elements and sets box-sizing to border-box for easier sizing control.
- **Body and Typography:**

The site uses Arial as the main font with a light gray background and dark text for readability.

- **Navigation Bar (.navbar):**

Styled with a strong red background, white text, and flexbox for layout. The logo and navigation links are spaced evenly, with hover and active link styles for better UX.

- **Hero Section (.hero):**

Centered text with a light blue background to welcome users. · **Container:**

A max-width container centers content with padding to prevent edges from touching the browser window.

- **News Grid (.news-grid) and Cards (.news-card):**

A responsive grid layout that adapts to screen size, with each card having a white background, rounded corners, and subtle shadow for depth.

Images fill the card width and are cropped to fit.

- **Article Section (.article):**

Hidden by default and styled to display detailed news articles with white background and rounded corners.

- **Footer (.footer):**

Matches the navbar's red theme, with centered white text and padding.

## 11. Testing

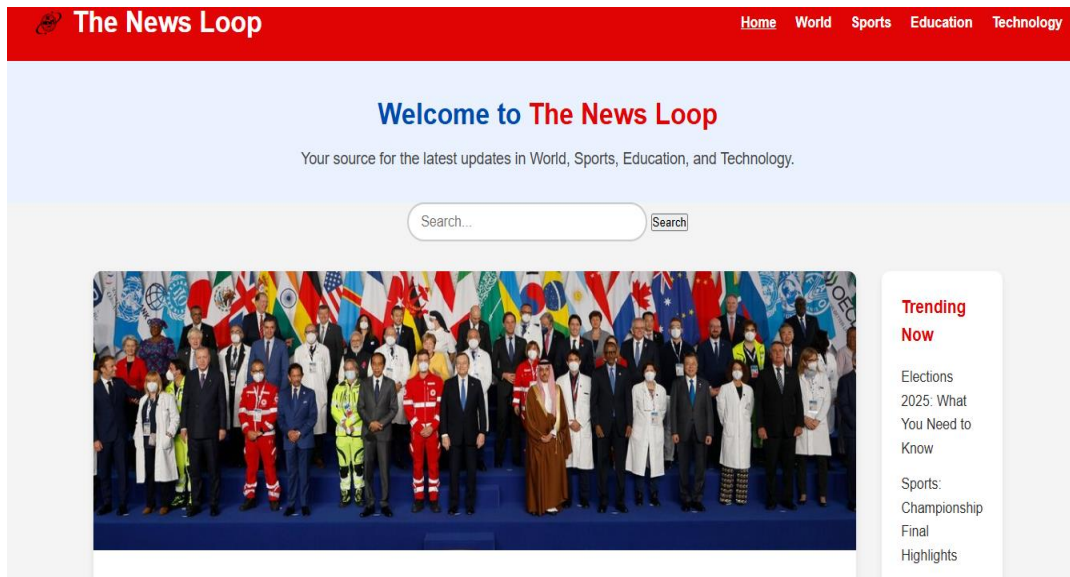
This project does not implement automated testing. Instead, testing is manual:

- Verify navigation between pages works as expected.
- Confirm that clicking headlines opens and closes articles correctly.
- Test on different browsers and device sizes to ensure responsiveness and compatibility.

For future scalability, introducing testing frameworks like Jest or Cypress would be beneficial.



## 12.Screenshots:



## SPORTS

"Game on, story told."



Women's Singles Champion



Kabaddi League 2025: Thrilling Matches and Rising Stars



NFL season drama, Brady, Mahomes & more



## TECHNOLOGY

"Innovation at your fingertips."



Apple Unveils iPhone 17 Series

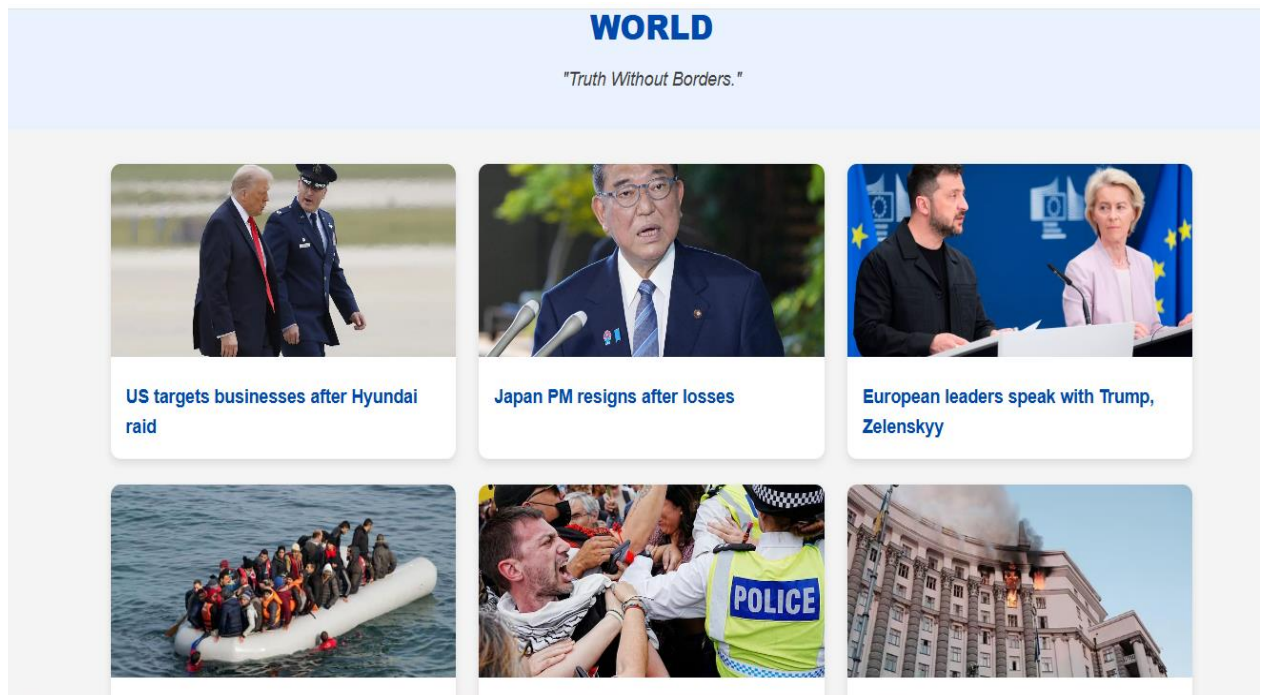


AI Breakthroughs in Medicine



Whale-Tagging Drone Innovation





<https://drive.google.com/file/d/1cmn8ApN6gvILZrRRDcjZnsZubeuLEk3u/view?usp=drivesdk>

- Homepage displaying all news categories
- News grid view on mobile and desktop
- Full article view after clicking a headline

### 13. Known Issues

- The project depends on JavaScript to show/hide articles; users with JS disabled will not experience this functionality.
- Page navigation triggers full reloads; a SPA approach could improve UX.
- No backend integration — all content is static, which limits scalability and real-time updates.

### 14. Future Enhancements

- **Framework Migration:** Rebuild with React.js to utilize component architecture and better state management.
- **API Integration:** Connect to a news API to dynamically fetch articles and update content live.
- **Client-side Routing:** Implement SPA routing for smoother navigation without page reloads.
- **User Preferences:** Add features like dark mode, saved articles, and custom categories using persistent state (localStorage or backend).



- **Accessibility Improvements:** Enhance ARIA labels, keyboard navigation, and contrast ratios.
- **Automated Testing:** Introduce unit and integration tests to maintain code quality.